

PARAPSYCHOLOGY AND MODERN SCIENCE

THREE ESSAYS

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Preface

This second publication of the South African S.P.R. consists of three essays. First, Dr J.H. van der Merwe, a physicist and mathematician of the University of the Witwatersrand, deals with the problem of the validity of the statistical methods used in extra-sensory perception experiments such as those carried out at Duke University and - in a very modest degree - at our own. G. Spencer Brown's book having caused something of a stir in South Africa it was necessary to demonstrate the irrelevance of this rather belated attack. In the second place we are publishing the last two presidential addresses, that by Dr Alan Price dealing with the important problem of evidence in parapsychology, while Professor M. Valkhoff discusses the rationalist attitude towards psychical research and analyses cases of 'white' and 'black' magic. We hope that each of these essays will interest the reader and bear witness to the topicality of the work done by our Society.

ON THE ATTITUDE OF SCIENCE TOWARDS THE FACTS OF PSYCHIC RESEARCH AND
THE INADEQUACY OF STATISTICAL COUNTER EXPLANATIONS OF THESE FACTS.

by

Dr J.H. van der Merwe.

Statistical research over the past 25 years on psychic (or psi-) phenomena, such as telepathy, clairvoyance, precognition and psycho-kinesis, has produced such convincing results that to-day a large number of scientists accepts the existence of these phenomena, and many are prepared to do so under certain conditions, for example if they can be shown experiments which do not leave the faintest doubt about the non-occurrence of fraud anywhere. The earlier type of criticism on experimental techniques, which had been so helpful in demonstrating possible flaws in the evidence, has been virtually silenced by careful experimentation. However psi-research is still being vigorously opposed by those scientists who assert rather categorically that there can be no such thing as psi-experience, and who therefore attack the findings of research on such general, and therefore vague, grounds as incompatibility with modern physics, the unsoundness of the fundamental concepts of statistics or the impossibility of ruling out fraud completely. And it must be admitted that the majority of scientists who show some interest in these matters follow the lead of these critics. It may be that, as some parapsychologists think, these scientists do not accept the findings of psi-research, because they simply do not want to; these facts are in conflict with the mechanistic concepts to which they have become accustomed and their acceptance would only produce utter confusion in the minds of these scientists who have enough trouble as it is, in face of the astounding rate of advance of science, to keep their mechanistic picture of what is happening in the universe as simple as possible.

This however is an oversimplification of the attitude of the average scientist who unfortunately has some very real and down-to-earth reasons for being doubtful about the findings of psi-research. Let us briefly discuss some of the most important reasons why these findings appear unacceptable to modern science. Firstly, the evidence from numerous spontaneous cases of paranormal experience reported in the literature suggests that thoughts and visions are transferred over large distances, there being no correlation between the vividness of the impression received and the distance involved. Statistical experiments with the sender (or material object) and receiver at distances varying from a few miles to several thousand have more or less confirmed that ESP (extra-sensory perception) remains undiminished over this distance range. If true, such phenomena would be in conflict with the laws of physics, such as the law of energy conservation.

Secondly, ESP can penetrate the future, thus making it possible for a person with paranormal powers to make predictions of future events.

Fantastic as these claims may seem, they rest on such a formidable and convincing array of experimental evidence, that the outsider either has to believe them or dismiss everything as fraud.

This prophetic ability, or precognition as it is called, seems to be definitely something different from an ability to infer future events, be it consciously or sub-consciously, from the facts known at the present.

Thirdly one is required to accept the results of the so-called psychokinesis experiments which are supposed to show that the mind can influence the motion of material objects; mostly such tests consist in the casting of dice, the person whose psychic powers are tested being required to will the dice to land in a certain manner. Now one might be prepared to accept the positive findings of these experiments; after all, each one of us is continuously experiencing in our bodies the influence of "mind over matter". However these experiments have also indicated that the "forces" involved are of a completely unphysical nature since the scoring rate does not decrease and remains significant as the number of dice thrown at a time is increased. Furthermore, if psychokinesis exists, psychic effects seem to behave rather inconsistently; they originate in matter, they interact with matter as in psychokinesis, yet they do not seem to be affected at all by shielding between sender and receiver, even if these two are so far apart that they have part of the earth between them. All this is rather confusing to the mind of the average scientist.

Fourthly, in experiments involving the naming of the order of cards in a pack, it is difficult to visualise how ESP manages now and then to read correctly the pattern on the required card when there are so many other patterns interfering. Yet that is exactly what the experimental results seem to imply; the alternative possibility that something may be wrong with the statistics involved can be excluded as will be shown later on. It has even been suggested (1) that the cards be guessed in a random order, instead of down through the pack as is usually done. I do not know whether any such experiments have been done, but from previous experience one has reason to expect that even here the person with psychic ability will score above the chance level. Fifthly, ESP is a rather mysterious and elusive mental function. Some experimenters have failed to find any trace of it at all. A subject (i.e. the person whose psi-ability is being tested) possessing this ability loses it after some time of continuous experimentation; this may happen gradually in view of the loss of the initial curiosity and enthusiasm or suddenly after some dramatic incident in his life. It seems as if ESP is being destroyed during the very process of proving its existence. (This statement rings a very familiar bell to the quantum physicist.) Further it may even happen that a subject scores well with one experimenter but obtains only chance scores with another. Further a subject is often unconscious of his exercise of these powers in the sense that he does not know beforehand whether his guesses are right or wrong. Also, in contrast to the ordinary mental functions, psychic ability cannot be acquired or improved by learning; it can only be lost. Finally

we do not know of any part of the brain in which this function can possibly be situated.

These are more or less the reasons why the interested but sceptical scientist finds it difficult to accept the facts of psi-research. But the major task of parapsychologists is not so much to convince the interested, as to overcome the indifference of the scientific world and get parapsychology recognised as a true science. J.F.Nicol (3) has listed 4 difficulties standing in the way of scientific recognition of this subject:

1. At the present stage it has no immediate relevance to the subject matter of other sciences. This is true even for psychology which is a related field.
2. Investigators have failed to produce a single experiment which can be repeated, with approximately the same results, at any time in the foreseeable future.
3. The investigators themselves disagree about the quality and validity of much of the evidence.
4. Claims are often made that are unsupportable by the published evidence.

In the following sections I shall try to show that psychic experience is a real phenomenon, in spite of its unphysical and mysterious nature. In doing so I shall limit myself to considering possible interpretations of the facts of statistical research and not attempt to theorize about the nature and origin of the phenomenon. Much has been written about psi-fields and whatnot, but since we know so little, speculations of this kind are of little value at present.

The question of Fraud

During the earlier stages of statistical research on psi-phenomena it became evident that elaborate precautions should be taken to eliminate the possibility of fraud on the part of the persons taking part in the experiments. A person might wish the experiment to succeed in order to win fame, or because he had some religious axe to grind, or for some other reason. To convince the critics, not even the reliability of the chief experimenter, whatever his scientific standing, could be taken for granted. In the course of time the experiments, although simple in purpose, tended to become top-heavy with all the elaborate measures that had to be taken as safeguards against the possible occurrence of fraud and error.

These measures in general had the effect of lowering the scoring rate of the paranormal subject, although it still remained far above chance. Some of the highest scores actually occurred under these conditions. In spite of the fact that the most stringent requirements of the critics have more or less been met, the controversy has not ended yet.

But nowadays parapsychologists are inclined to ignore criticism stating that the experiments are not yet absolutely fraudproof. Whether this attitude flows from sheer desperation or not, it is at least understandable. No scientist engaged on research is prepared to spend his time on a matter which, years ago, had been settled beyond doubt within his circle of specialists, just to convince critics from outside, many of whom betray the fact that they have not made themselves acquainted with the details of the research.

However, I hope that the rest of this article will show, by implication, that the only logical attitude one can take towards the facts of psi-research, apart from accepting them, is that the investigators all over the world have conspired to get queer results or that they were victims of fraud on the part of the people taking part in the experiments. Such an attitude would however reflect a serious doubt as to the honesty and intelligence of the investigators, of whom there are some in our own country. No responsible critic has yet dared to make such an allegation (2).

On the other hand the ordinary scientist who is quite willing to reject this fantastic possibility, is faced with certain aspects of psi-research, completely foreign to his own field, which almost invite him not to do so. The very nature of the experiments requires that one must have some faith in the honesty of at least the chief experimenter. Verification of the results is impossible, since the experiment cannot be repeated. An increase of the number of safeguards against fraud tends to lower the scoring rate of the high-scoring subject. If a completely sceptical observer attends the experiment, the so-called paranormal guesser will most likely lose his ability. (Outstanding exceptions are the cases of Basil Shackleton and Mrs. G. Stewart, to be discussed later on; their scoring rates were unaffected by the presence of 'open-minded' observers). Success in obtaining significant scores over a long period seems to depend upon a rare and unaccountable combination of experimenter, subject and, in the case of telepathy experiments, sender. One is tempted to suspect that success is sure to follow when the persons taking part are willing to assist in making the experiment. Furthermore different chief experimenters obtain different results even when working under the same conditions and with the same subjects, and this even when they are not actually present at the tests (4).

The parapsychologist may argue that the personality or the sub-conscious desires of the person in control of the experiment may have been a determining factor in some mysterious way, but here is nothing in the experiments to prevent one from suspecting that the outcome may have been determined rather consciously and deliberately.

The situation is rendered still more unfortunate by the dubious historical background of psi-research. The concept of extra-sensory perception rose out of the activities of spiritualist mediums and other so-called 'psychic' persons, who pretend that they can do such things as predicting the future or receive messages from spirits of the dead. There may be an element of truth in the experiences of some of these people, but it is quite obvious that a phenomenon clouded with so much emotion

and elusiveness is sure to attract the dupes and quacks in large numbers. Serious research has to be kept free from this kind of person and that is not so easy. There are no recognized qualifications and courses of training in parapsychology, and anyone wishing to make some sort of name for himself can set up as an authority and get a hearing through popular journals and books.

In this article I intend not to bring forward any arguments against the contention that the results of psi-research are based on deliberate fraud. I do so on account of what has been said earlier and also because otherwise this article will become too lengthy. I wish to point out, however, that it is not the fault of the parapsychologists that so many factors in psi-research point towards the occurrence of fraud and that some of the results, such as the disappearance of the psi-faculty in the presence of hostile observers, invite comparison with the activities of spiritualist mediums. The basic reason seemingly lies in the fact that the outcome of the experiments depend on many unknown factors. Until these factors are established the question of fraud will never cease to arise over and over again.

I shall also refrain from discussing the possibility that the results of psi-research were produced by unintentional methodological errors occurring in the experiments, in the recording or in the analysis. That such errors may have occurred in spite of numerous safeguards, no one will deny, but to reject all the evidence on these grounds seems absurd. The most that one can really expect is that error may perhaps account for those results which are of borderline significance, but that surely will not affect the fundamental question of whether ESP is a real phenomenon or a fallacy. A final possible explanation of the results exists, namely that they may be attributed to some peculiarity or still under-defined defect of present-day statistical theory. The rest of this article will be devoted to this matter.

Background of the Controversy on the Applicability of statistical Methods

Soon after the start of serious statistical research on psi-phenomena a storm of criticism broke over it. The mathematical procedures adopted in determining whether or not the score totals could be explained by the laws of chance, were among the matters which were heavily criticized. Many specialists in statistics became interested in the controversy and helped to put matters right. A climax was reached when the American Institute of Mathematical Statistics, at an annual meeting in 1937, publically endorsed the mathematical procedures used in ESP-research. Since that time no one has raised serious questions in that country on this matter. As a special safeguard the 'Journal of Parapsychology' has two statistical editors on its staff who read everything published.

In other countries, however, this clearance on the statistical methods

did not take place, and in recent years the controversy was started afresh in England by the statistician G.S. Brown, who has recently published a book, defending his stand against psi-research (5). Studying the pros and cons in this dispute, one gets the impression that Brown's criticisms have been adequately refuted. Because of that, may be, the dispute has attracted little attention in other countries. However it has been a very revealing one since it has provided numerous arguments for and against the hypothesis that the above-chance scores in psi-experiments can be accounted for on statistical grounds. Brown's criticisms will be considered in some detail later on.

Statistical Approach of the Scientists.

Suppose a physicist performs an experiment whereby a coin is tossed up and allowed to fall freely a large number of times, the ratio of the number of times it has fallen head to the number of times it has been tossed up being calculated after each toss. He will observe that this ratio fluctuates wildly when N , the number of tosses, is still small, but in the course of the experiment as N becomes larger these fluctuations become smaller and gradually the ratio becomes stable in the neighbourhood of a definite value between 0 and 1. If the coin has been constructed as perfectly as practically possible, this value is equal to $\frac{1}{2}$. Extrapolating to N values beyond the total number of tosses in the actual experiment, one says that this ratio tends to $\frac{1}{2}$ as N tends to infinity. This statement is in agreement with the theoretical consideration that an experiment of this type cannot distinguish between the two faces of the coin if the latter is so constructed that the plane parallel to the faces and midway between them is a plane of complete symmetry.

If the ratio of the number of heads to N settle about a value distinctly different from $\frac{1}{2}$, the physicist will conclude that the plane mentioned above is not a plane of symmetry any more, in other words that the coin is 'biased'. If he examines the coin carefully, he is almost sure to discover the cause of this behaviour. There may be a speck of impurity somewhere in the interior of the coin, or the coin may not be perfectly shaped. In this sense, therefore, it is not correct to say that 'all that mathematics can prove is more mathematics'.

If the examination however does fail to show any mechanical flaw in the construction of the coin, the physicist will confidently proceed to consider other possibilities to explain the results obtained. He may suspect, for example, that the coin had been tossed in some regular manner, or he may find that it is actually a magnetic dipole (if it happens to be a steel one) and acted upon by a magnet which incidentally happens to be nearby. If his efforts fail to yield any physical explanation, he will probably give up in despair, but still be sure that some physical phenomenon, unknown to him, is responsible for the asymmetric behaviour of the coin. At no instant will he consider seriously the possibility that maybe the 'almost impossible' has happened in his ex-

periment. However he is not quite correct in adopting this attitude, because the theory of probability predicts that there is a chance, though very small, of the perfect coin falling head say 60,000 times out of 100,000 tosses. In fact the outcome of each tossing process is independent of the results of the tosses that have preceded it or are to follow.

Suppose now an onlooker, who has been present all the time, tells the physicist that during the experiment he has been trying mentally to influence the falling coin so that it lands with a particular face uppermost, thus producing the queer experimental result. At such a fantastic suggestion the physicist will probably indicate that he would rather believe the results to be a chance effect. If, however, a whole series of experiments is now performed, and each time the result agrees with the way the onlooker had willed the coin to land, the experimenter is bound to accept the existence of some unphysical effect influencing the experiment. Of course he may still argue that it is not completely impossible statistically that some experiments yield a distinct surplus of heads, while the others yield a distinct surplus of tails, at the same time there being a correlation between the type of surplus and what the onlooker willed. But that is obviously driving the theory of probability to extremes.

To my mind, this is exactly what is done by those critics who want to do away with the results of psi-research on statistical grounds. The above-mentioned attitude of the physicist, and for that matter any other scientist, may not always be strictly correct, but it is a very practical one, and justifiable on the ground that it is sure to lead to some down-to-earth explanation or even to some new law of nature. If a closed room at a uniform temperature suddenly heats up in one part and cools down in another the ordinary scientist will search for a practical explanation (and surely find it), and never dream that the statistically improbable has come off, namely that, purely as a matter of chance, for a few minutes the fast air molecules are in a majority in one part of the room and the slow ones in the other. But the parapsychologist is severely criticised for adopting a similar attitude. Unfortunately I have chosen to base my discussion on a simple theoretical experiment in psycho-kinesis, a phenomenon whose existence is still doubted by many parapsychologists because the experimental results are not very conclusive. But the arguments can be applied to other psychic phenomena. Thus when a person persists month after month and year after year in obtaining above chance scores in card-guessing experiments, the parapsychologist acts like any other scientist in interpreting the results as due to some phenomenon other than the occurrence of the statistically improbable.

Nobody will deny that when a person scores well in a number of such experiments, he does not necessarily possess ESP powers; after all there are millions of people in the world and at least a few must have a run of luck now and then, purely as a matter of chance. But it is a different matter when he continues to do so over a considerable period, while all the time a cross-check of his guesses with packs of cards

not 'aimed at' yield only chance results. If furthermore he consistently obtains only chance scores in one type of ESP and highly significant scores in another, chance is completely ruled out, because statistics cannot distinguish between the various types of ESP.

Evidence against the Contention that ESP Results are due to Defects of Probability theory

The experiments to which I shall refer in this section are all described at some length in the book of S.G. Soal and F. Bateman, reference (6), which in particular contains a detailed account of the very important experiments by Soal himself. Considerable and adequate attention has also been paid in this book to the question of whether the significant scores in ESP research may possibly be due to defects in probability theory. In providing experimental evidence against such a possibility, I shall therefore base most of the following discussion on information and arguments to be found in this book.

Firstly, let me briefly describe the now more or less standard procedure in use in card-guessing experiments. The cards used most often are the so-called Zener cards, each bearing one of five symbols: a cross, a star, wavy lines, a circle, or a square. These particular symbols were chosen because it was thought that subjects would be unlikely to have any strong preferences for any of them, as they may have for playing cards or numbers. Five symbols are also easily memorised. The cards are made up in packs of 25, the order of the cards being arranged beforehand in random order by means of published tables of random numbers. Each pack therefore does not necessarily contain five of each symbol. Sometimes packs consisting of exactly five cards of each symbol are used, randomization is then achieved by ordinary shuffling. In each case one expects, if chance alone operates, the subject to score 5 correct guesses ('hits') on the average, since the probability of success at each guess is constant and equal to $1/5$. Any persistent scoring well above (or below) this average score is taken as an indication that an extra-chance factor has been operating. In a clairvoyance experiment each card is lifted off the pack by the experimenter as the subject makes his guess and is placed downward on another pack. Nobody looks at the cards and the guesses are not checked until the end of the run of 25 cards. Sometimes the subject has to guess down through the pack without any of the cards being touched or removed until the end of the run. If the person handling the cards looks at each card as it is presented, the test also allows the operation of telepathy, together with clairvoyance. In the case of the former, the extra-sensory stimulus originates in the mind of the person seeing the card (the agent or sender) and in the case of the latter the stimulus is the card itself. There have been instances of subjects, as we shall see, who scored at the chance level in clairvoyance experiments, but well above it when an agent looked at the cards when presented. The presumption is that in such cases telepathy only operates.

We can now discuss the experimental evidence. To begin with, it is important to note that, whenever an extensive series of tests are made, involving hundreds of subjects, definite evidence for ESP appears, if at all, in the scoring of only a very few of them. But these few will maintain their above-chance scoring rate over considerable periods, while the rest continue to score at the chance level. Thus in the monumental work of D.R. Martin and F.P. Stribic, who tested 332 subjects for clairvoyance over a period of 3 years, (1937-1939), only 2 or 3 subjects persisted in scoring well, and eventually they settled down to working with one of them only. This was Mr C. Jencks, who was put through nearly 90,000 trials (guesses), all the time scoring significantly above chance, with an average of nearly 7 hits per pack of 25 five-symbol cards. Is this achievement a result of chance? The odds against the possibility of this being a chance score is some astronomical number to one. Furthermore a check-up on the theory of chance always gave chance results. Thus, in one series of experiments, Mr Jencks was each time confronted with ten well-shuffled packs of Zener cards, and asked to guess down through a particular one, isolated from the rest to facilitate concentration on it. Guessing through 110 packs this way, he obtained a score of more than 8 on the chosen pack, and very nearly 5, the chance average, in the cross-check, which consisted in scoring his guesses against the order of the cards in the other nine packs not aimed at.

Incredible as these results are, it seems impossible to do away with them merely on statistical grounds. If it were true that the theory of statistics had been underestimating the role of chance, and that the improbable is actually less improbable than theory predicts, then in a series of experiments as described above one would expect a not too small percentage of subjects to score above chance over a period involving, say, several hundred guesses. And the significance of these scores would range from insignificant to extremely significant. But the above experiments, and others, point in a different direction. Very few subjects produce very outstanding results, while the rest produce only chance-average results. If it were a matter of chance, why should all the luck be concentrated on a few and none at all on the rest? It may be argued of course that some of those subjects scoring average might have had a run of luck if the experimenters had tested them for as long as Mr Jencks, or that the latter merely had an unusual long run of luck which ran out as his averages dropped over the years. To test whether the first statement is true, the experimenters should have taken their subjects through millions of trials, an impossible task; and as for the second argument, was it necessary for Mr Jencks to keep going at the same rate (and that after tens of thousands of trials) to demonstrate that he had paranormal powers and not merely a long run of luck? The results of cross-checking seem to be conclusive evidence that Jencks would have scored chance-average if he had not possessed paranormal powers.

Although parapsychology cannot explain how a person can lose his psychic powers, it seems easy to find possible reasons why that must happen.

The subject has an extremely monotonous task guessing the five symbols, and continued experimentation over a number of years is sure to affect him psychologically. It may be that, to put an end to this maddening experience, some sub-conscious reaction sets in with the effect of suppressing the psychic powers. Or they may cease to function out of sheer exhaustion. Or loss of interest may be responsible for the eventual loss of some ability, exactly as with ordinary faculties.

We conclude these remarks by quoting Soal and Bateman; "...it is not necessary for the establishing of telepathy that the same subject should go on producing extra-chance scores indefinitely. For telepathy is a biological and not a physical phenomenon. Even a psychologist cannot go on using the same rats and monkeys indefinitely. Nor do all psychological experiments produce the same results when repeated."

The same arguments can be applied to the work of Dr S.G. Soal. Up to the outbreak of the Second World War he had subjected 160 people to ESP tests and found the results of more than 120,000 trials to be in good agreement with the probability theory. As a result he was completely sceptical about the existence of ESP, and made his views known publically through lectures and articles in the press. In 1939 it was suggested to him to re-examine his records to see whether there was any tendency among any of his subjects to guess correctly, not the card aimed at, but the immediately preceding one or the immediately following one. He found such evidence in two, and only two, of his subjects, namely, Mr B. Shackleton and Mrs G. Stewart, with whom he subsequently (from 1941-1950) did one of the most outstanding series of investigations yet made in psi-research. At the time these two people were first tested, three years before, both were sure that they had some psychical gift, and were rather surprised that they got such poor results in the experiments, in which they were tested for ordinary ESP. Shackleton, for example, had often demonstrated his abilities to his amazed friends by guessing through a pack of playing cards and getting most of them right. Therefore it was not a matter of chance that the results of these two subjects in particular, in a group of 160, should show definite signs of promise.

Let us look at the results obtained with these two subjects. Shackleton was studied more or less continuously for more than two years (1941-1943), having been subjected to a total of 11,000 trials. Thus the experiments indicated that he possessed paranormal powers over a period of at least 7 years, but he obviously possessed them over a much longer period, since he became aware of them in the early 1920's. The following results obtained with him are important for this discussion. Firstly, he scored exceptionally well in telepathy experiments, but consistently obtained only chance results in clairvoyance experiments. This difference in scoring is the more striking when one considers the fact that the latter type of experiment was interspersed among the first type, and whether this was done randomly or in an alternating order and whether Shackleton was informed of the nature of the experiment or not, this difference persisted. The high scores in the first type and the chance scores in the second could not be a matter of luck,

because the laws of chance should affect both types of experiments the same way.

Secondly, in the telepathy experiments he clearly failed to score above chance when his guesses were compared with the respective targets, but he consistently obtained highly significant scores when his guesses were compared with the card immediately preceding or following the target card. That means he was employing what is now called post-cognitive and precognitive telepathy, respectively. One may explain this by saying that his paranormal faculties were of such a nature as to enable him to receive an image only when it was 'sinking' from the sender's conscious mind into his unconscious mind, or when it was about to 'emerge' in the opposite direction, but never when it was clearly focused in the sender's conscious mind. Unbelievable as these things seem, the case for post- and precognition rests on extensive experimental and spontaneous evidence. And the 'displacement effect' in the Shackleton experiments was not due to some freak of statistics, for when the speed at which the guessing normally proceeded was doubled, Shackleton scored hits on the cards two ahead and two behind the target card actually aimed at, with only chance success with the target and its two immediate neighbours. And when the experiments were done at a slow rate, with an interval of five seconds (that is about twice the normal) between successive calls, he scored at the chance level, with no indication of any displacement effect in his guessing; and these results were obtained while at the same time the normal-rate experiments which were interspersed among the slow-rate ones continued to yield highly significant scores.

A third relevant aspect of Shackleton's guessing pattern is his scoring tendencies with the different agents. That the personality of the person whose mind he was supposed to read was important in revealing his paranormal faculties was clear from the fact that, of the 11 agents tried out with him, only 3 were successful in doing so, and of the latter only one succeeded in demonstrating both precognition and post-cognition. Again this is a feature which cannot be reasoned away on the grounds of statistical inadequacy. (A less respectful critic might of course suggest that these 3 agents were in fraudulent collusion with the subject or with the chief experimenter Soal himself, while the other 8 were not. But arguments on these lines have against them the testimony of many independent, and sometimes sceptical, observers who were present at various times, and whose presence did not make any difference to Shackleton's scoring rate, as usually happened with other paranormal subjects. The reader is also referred to reference (7), where Soal examines some of these arguments and shows them to be without any foundation).

In fairness it must be pointed out that there is no general agreement among parapsychologists as to whether in telepathy experiments a given subject needs a special type of sender in order that the experiments succeed. Furthermore, in contrast to the results obtained with Shackleton (and Mrs. Stewart, as we shall see), other experimental evidence seems to indicate that subjects possessing psychic powers score equally

well in telepathy and clairvoyance tests, thus indicating that these two processes are essentially the same function (8).

It is also of interest to mention a series of experiments done with Shackleton in which one of the 5 symbols was presented by the sender a large number of times. Thus, without Shackleton being aware of it, the experimenter deviated from the usual procedure of presenting the symbols in random order. It turned out however that Shackleton tended to guess with increased frequency any symbol that was repeated a large number of times. Again psychic perception seems to be the only logical explanation of such results.

Let us now consider the results obtained with the other major subject of Soal's research, namely Mrs. Stewart. As in the case of Shackleton, Mrs. Stewart was first experimented upon in 1936, but her psychic powers were discovered only three years later, when the old records were re-examined. And subsequent research revealed some striking similarities in the guessing pattern of these two subjects. Thus Mrs. Stewart also produced significant displacement scores in telepathy tests, but likewise failed to score above chance expectation in clairvoyance tests. She also succeeded only with certain people as agents.

Mrs. Stewart was studied continuously for 5 years from 1945 to 1950, and was subjected to more than 50,000 trials in 130 sittings. During this period her score average on the target card remained remarkably constant at about 7 hits per 25 trials, leaving out of consideration about 13,000 trials in certain types of experiments such as clairvoyance tests, experiments at a rapid rate of calling, etc. Thus she had maintained an above-chance scoring rate for a longer period than any other paranormal subject. But like most of them she eventually lost this ability within a very short time, and thereafter scored nothing but chance results until the experiments on her were abandoned. The remarks made earlier on the loss of psychic ability due to continuous experimentation applies to this case in particular.

The primary object of the experiments carried out with Shackleton had been different from that of the experiments with Mrs. Stewart. With the former Soal had succeeded in demonstrating the existence of ESP to his own satisfaction, and with the latter he wanted to find out something about its nature. Of the large amount of work done with Mrs. Stewart we mention only a few interesting features.

In 1936 she produced significant scores not only on the target card but also on the two adjacent cards. But from 1945 onwards, when working with different agents, her principal score was consistently on the target card only. When the rate of calling was approximately doubled, she consistently scored on the card the agent had just looked at (post-cognitive displacement).

In a series of experiments in which two agents focussed on different cards at every trial, it was found that she scored above chance expectation with the person whom she thought was the agent and obtained only chance results with the other agent of whose participation she was unaware.

In another series of experiments Mrs. Stewart was allowed to write down

a column of 25 guesses first, and thereafter the agent presented the symbols at the usual rate. As expected, these experiments gave only chance results, in contrast with the ordinary experiments in which the guess was recorded immediately after the presentation of the symbol. An analysis of Mrs. Stewart's scoring pattern showed a marked decline effect within each run, an affect which was absent in the work with Shackleton, but which is nevertheless a characteristic ESP effect. In a run of 25 guesses the hits were crowded into the first 15, more or less; thereafter there occurred a definite drop in the scoring rate, although at all times her scoring rate remained significantly high. The most likely interpretation seems to be that some kind of fatigue effect was operating.

A person trying to explain away the above-mentioned, and other, features of the work with Mrs. Stewart on the grounds of inadequacy of the statistical theory will have an almost impossible task before him; this appears to be the more so if one considers that in most major experiments with her, extensive cross-checks were carried out yielding chance results only. The critic who thinks that fraud and error can account for everything will probably have more success in convincing others, because one man discovered two highly gifted subjects possessing psychic powers similar in nature, and no one else has as yet been able to find another such subject. Soal himself has tried very hard but all his efforts have been unsuccessful.

One can continue giving further examples to demonstrate why it is impossible to reject ESP on statistical grounds. I wish to bring this discussion to an end by referring briefly to two more examples. The first is the research done to discover whether any correlation exists between scoring rate and the personality of the guesser. Naturally these experiments have to be done with a large number of people, chosen more or less at random, and consequently the results are not as conclusive and convincing as those obtained with a small number of gifted individuals. In spite of the fact that often in such mass experiments, the claims made by over-enthusiastic investigators are exaggerated and border on the ridiculous, a few correlations between ESP scores and personality have more or less been established. It seems as if the socially well-adjusted, extravert type of personality tends to score above, while the socially mal-adjusted, introvert type tends to score below chance expectation. Furthermore a pleasurable mood and interest in the outcome of the experiment is conducive to good scoring (9). Then there is the well-known hypothesis that the believer in ESP ('sheep') tends to score above, while the unbeliever ('goat') tends to score below the chance level, but it does not seem as if the experimental evidence supports this hypothesis consistently (10). For the sake of interest we mention the fact that the available evidence does not point to any definite correlation between paranormal ability and intellectual ability. University students in general are no better at card-guessing than mental patients, and the best guessers were more or less of normal intelligence. This is rather unfortunate, but the few correlations that do exist are sufficient demonstration that statistical theory cannot account for ESP.

As a final example will serve the effect of drugs on ESP processes. It has been found that if the high-scoring subject takes large doses of a narcotic drug, such as the sleeping powder sodium amytal, his capacity to score above chance is practically eliminated. The effect of a stimulant drug, such as caffeine, taken some time afterwards to counteract the narcotic drug, is to raise the scoring rate to the subject's normal above-chance average. The effect of drugs on ESP is therefore of the same nature as their influence on the more familiar higher level mental processes such as reasoning, judgement and selfcontrol. ESP is therefore a real process and comparable with normal mental activities.

Criticism by G.S. Brown

To give a summary of Brown's criticism seems almost impossible because there is no central theme in his arguments. These are mostly of a general and philosophical nature, and as such somewhat confusing to the practical scientist. No detailed criticism had been made of any particular experiment and, as far as I can make out, Brown attacked Soal's work on Shackleton and Mrs. Stewart only on minor points, and not on the general conclusions. As a matter of fact, he has conceded (3) that some of the results of the statistical research may be interpreted as evidence of paranormal ability.

One of Brown's criticisms is the following: randomization of the card order is imperfect because random number tables are defective. Statistically significant results of the same order as those obtained in ESP experiments have been obtained by him by matching columns of numbers taken from random number tables (5). Although an effect of this kind may be found in such matching experiments with the published random number tables, it can be expected to be rather small and can at most account for those results in the research which are of marginal significance. It seems almost impossible that imperfect randomization, whatever that means, can account for the persistent scoring well above chance expectation, over a long period, of quite a number of subjects. These subjects could do so irrespective of whether the random distribution of the cards had been achieved by the rather dubious and inadequate process of shuffling or more satisfactorily by means of lists of random numbers.

All that seems really necessary in the card guessing experiments is that there should be no correlation between the card order and the guessing habits of the subject. Thus the latter may have a preference for calling, say, the circle and any excess of this symbol in the pack of cards will artificially increase the number of hits. Any such correlation is purely accidental and one can expect it to last for not more than say, a few hundred trials. This can probably account for the fact that occasionally a subject scores well for a few runs but fails to keep it up afterwards.

Brown also argues that, because the cards are not arranged in perfectly

random order, the control series (cross-checks) cannot always be relied upon to give chance results in contrast to the above-chance results of the actual experiment. Now an obvious and most probably as adequate control is to check series of guesses against packs of cards for which they were not originally intended. In most of the major experiments extensive checks of this kind have been made, with results approximately in agreement with chance expectation. Brown seems to have conveniently ignored these results for he has never discussed them specifically or tried to explain them away.

Brown thinks that something (as yet undefined) may be wrong with the accepted basic concepts of statistical theory and considers the results of psi-research to be evidence for such a hypothesis (3). That such defects of the theory may exist, parapsychologists have never denied. But it does seem queer to them that, if this is true, different types of theory should apply to the psi-experiment and its cross-check. If such defects do exist they must necessarily be minor ones, since the accepted theory has been found to work well in many different fields of modern science. As such they cannot be large enough to account for all the results of ESP, especially the most striking ones. This problem is of course a purely statistical one, and should be discussed in some mathematical journal, instead of being a matter of controversy among parapsychologists.

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-/PSF.

PROBLEMS OF EVIDENCE IN PARAPSYCHOLOGY

by

Dr. E. Alan Price.

When a person lectures on the subject of psychical research, his hearers have no ready means of finding out his qualifications and point of view. Let me therefore at the outset state that I have no special qualifications, and have been placed in this difficult position merely because our President, Professor Valkhoff is unable himself to deliver the presidential address.

The more a man knows about some particular subject and branch of science, for instance astronomy, mathematics or medicine, the more acutely conscious he must be that in relation to psychical research there is so little in the way of settled theory, that any claim to knowledge in the scientific sense, would be very difficult to substantiate. There is no opportunity for a man to establish a claim and reach some academic standard of competence in the field of parapsychology. Therefore, listening to me here this evening you will hear my own personal reflections on the type of evidence available, and the problem of assessing the reality of paranormal cognition. The word "evidence" is used in its broadest sense, meaning testimony and not meaning proof or conclusion, thus when we say "the evidence we have already obtained" one refers to various facts accumulated over the years.

A belief in the reality of parapsychology rests on four foundations.

1. Spontaneous cases.
2. Qualitative Experiments.
3. Mediumistic Utterances.
4. Quantitative Experiments.

I do not propose to attempt anything like a complete survey of this evidence. Much has been written about it, and it would be impossible in a short address to do justice to this vast subject. For the present therefore it will suffice to select a few representative examples of these various phenomena and deal briefly with the validity of the experimental work.

It will be well to begin by discussing a few typical examples of so-called spontaneous phenomena, such as can be observed in every day life. Telepathy from the dying is a typical instance of this kind. One of the classics of the literature of psychical research, "The Phantasms of the Living" by Myers, Gurney and Podmore, contains scores of accounts of this type. The story usually reads as follows:-

Mr. X suddenly awakening from sleep, hears a voice crying for help, it may be calling his name, or merely sighing in a barely perceptible manner. He is immediately aware that an absent friend or relation is

in a state of crisis, in mortal danger or has met with an accident. In some cases this experience is in the nature of an apparition, that is of a visual hallucination in which the picture of a certain person appears before his mind's eye, as if endeavouring speech, and will convey by its expression the idea of impending peril, illness or death. Sometimes the scene is described in great detail and contains information which can be verified on subsequent inquiry. In other cases it is merely a spasm of sudden, baseless anxiety, apparently connected with an indefinite danger threatening the absent friend, and although detailed information may be lacking, a subsequent inquiry may show that the apprehension raised by the "premonition" was justified.

The Proceedings of the Society for Psychical Research contain hundreds of observations of apparent telepathy of this kind.

There are many obvious objections to a telepathic interpretation of such appearances. For instance, it can be argued that the evidence is unsatisfactory; that the testimony of casual and unqualified witnesses fails to possess scientific validity, or that accounts by persons who have themselves passed through a state of worry or anxiety are unreliable. Moreover it is widely recognised that faulty recollections, misrepresentation of trivial occurrences after the event are a common source of error in all walks of life, particularly so in psychical research. On the other hand we have to note that there is an increasing number of instances in the literature of what are called true telepathic or otherwise "supernormal" occurrences. One need only make mention of the remarkable exploits of the Indian Yogis and Tibetan Monks and the much discussed cases of this nature which some have come across amongst primitive peoples such as the African Witch doctor and Australian Aborigines.

Attempts to substantiate the observations met with in spontaneous cases were made by numerous workers through the last eighty years. To this one refers as experimental telepathy. They were carried out for instance by Professor Gilbert Murray and members of his family, largely following the pattern of the then popular "guessing game". Reports of these experiments were published in detail by Mrs. A. Sidgwick in the Proceedings of the Society for Psychical Research.

The procedure was as follows:-

Professor Murray would leave the family circle, which had gathered in the drawing room and proceed into another room out of earshot.

The rest of the family agreed on thinking of some past incident, dramatic or trivial, connected with one of those present, or with an absent friend. Alternatively a passage from a book or a purely imaginary event was selected. Professor Murray would then be called back into the room and asked to guess what the others were thinking. Reasonable precautions were taken to rule out sensory clues or information gained through other normal channels. In view of the unquestionable bona fides of the participants, collusion could be safely ruled out. Careful records of the experiments were taken by a reliable shorthand typist. An example may illustrate the procedure.

Mrs. Arnold Toynbie, - Professor Murray's daughter - is the agent. She thinks of the beginning of a story by Dostoevsky in which the dog of a poor old man is dying in a restaurant.

Professor Murray: "I think it is a thing in a book. A very miserable old man, I think, he's doing something with a dead dog. A very unhappy one. I rather think it is a restaurant and people are mocking, and then they are sorry and want to be kind. Of the nationality I am not sure. I have a feeling it is a sort of Gorky thing. I have a feeling it is something Russian".

G.N.M. Tyrrell quotes another experimental case:-

On Friday December 1st 1882 at 9.30 p.m. I went into a room alone and sat by the fireside, and endeavoured so strongly to fix my mind upon the interior of a house at Kew, in which resided Miss D. and her two sisters, that I seemed to be actually in the house. During this experiment I must have fallen into a mesmeric sleep, for although I was conscious, I could not move my limbs. I did not seem to have lost the power of moving them, but I could not make the effort to do so, and my hands which lay loosely on my knees about 6" apart felt involuntarily drawn together and seemed to meet although I was conscious that they did not move. At 10 p.m. I regained my normal state by an effort of will and then took a pencil and wrote down on a sheet of notepaper the foregoing statement. When I went to bed on the same night I determined that I would be in the front bedroom of the abovementioned house at 12 p.m. and remain there until I had made my spiritual presence perceptible to the inmates of that room.

On the next day Saturday I went to Kew to spend the evening and met there a married sister of Miss D. In the course of conversation she told me that on the previous night she had seen me distinctly on two occasions. She had spent the night at Florence Road and had slept in the front bedroom. About half past nine she had seen me in the passage going from one room to another and at twelve p.m. when she was wide awake she had seen me enter the bedroom and walk around to where she was sleeping and take her hair, which is very long, into my hand. She also told me that the apparition took hold of her hand and gazed intently into it, her conscious self saying: "You need not look at the lines for I have never had any trouble." She then awakened her sister Miss D., who was sleeping with her and told her about it. After hearing this account I took the statement, which I had written down on the previous evening from my pocket and showed it to some of the persons present. They were much astonished although incredulous. I asked Mrs. L. if she was not dreaming at the time of the latter experience, but this she stoutly denied and stated that she had forgotten what I was like, but seeing me so distinctly she recognised me at once. The lady and her sister gave their corroboration.

The French chemical engineer René Warcollier, devoted 25 years of laborious research to the task of experimental telepathy. He claims the best results in group experiments with telepathic drawings. An example illustrates his technique.

On one occasion Warcollier himself was the agent and he looked at a

picture of a hangar and an airship in it. In a sketch reproducing his own impression he drew a rough outline of the airship only. Madame S. the percipient sketched a wall with ladders placed alongside it, adding a plum-line to her drawing to express symbolically the inclination of the ladder. At first sight her drawing seems to bear no resemblance to the original, yet on analysis it is clear, at least in the view of Warcollier, that here again the telepathic copy actually reproduces lateral supports of the hangar, which may then easily be mistaken for a ladder leaning against a wall.

In some of the tests reproduced in Warcollier's book there is great correspondence between the original and the telepathic copy. In others however, it is more than questionable. Warcollier's book fails to offer a reliable standard of assessment and in this respect the material is hardly more convincing than that of his predecessors.

The same objection applies to more recent investigations worked along similar lines. Upton Sinclair's book "The Mental Radio" is a case in point. Until then most of his experiments were carried out under still less stringent conditions than the Warcollier tests.

Here, in our Society in Johannesburg, Mrs. S. Von Wiese demonstrated to us similar drawings, which she claims are of a telepathic nature and many of the drawings show a striking correspondence with the thoughts of the agent.

In the Sinclair series, as also in all other experimental telepathy works on freely chosen material, there is a tendency for the percipient's guess to slip from the essential to the accidental and the sceptic may well regard the author's interpretations equivocal and the similarity as claimed unconvincing. However it goes without saying that here again the objection of chance co-incidence cannot lightly be dismissed.

Let us now deal with the third form of evidence for the existence of para-normal cognition and that is mediumistic utterances.

Although it is the experience of many investigators that fraudulent mediums exist it has nevertheless become apparent to serious workers in this field that many of the mediumistic utterances, whether at a seance or by means of automatic writings are free of fraud and demonstrate powers which cannot be explained by any normal sensory capabilities. That does not mean that all these workers agree that the factor responsible for these paranormal powers is necessarily a discarnate spirit, but it seems to indicate that some information, past, present or future, which is uttered by the medium is evidence of either telepathy, clairvoyance or pre-cognition.

G.N.M. Tyrrell in his book 'The Personality of Man' states that although the best material and all the mediumistic evidence can be explained by means otherwise than a belief in life after death, much of the material contains strong evidence in support of the presence of a discarnate agency. Let me quote an example obtained from a medium:

'The Dark Note Book Case'

On the 17th and 19th December 1917, a lady, Mrs. Hugh Talbot, arranged for two sittings with a medium Mrs. Osborne Leonard. She says 'Mrs.

Leonard at this time knew neither my name nor address, nor had I ever been to her or any other medium before in my life'.

Through the control, Fedra, a very accurate description was given of the personal appearance of Mrs. Talbot's deceased husband.

'All that he said, or rather Fedra for him, was clear and lucid. Incidents of the past, known only to him and to me, were spoken of, the belongings, trivial in themselves, but possessing for him a particular personal interest, of which I was aware were minutely and correctly described, and I was asked if I still had them. All this, says Mrs. Talbot, was very interesting and seemed very natural. Suddenly Fedra began a tiresome description of a book. She said it was leather and dark, and tried to show me its size (about 8 to 10 inches long and 4 to 5 inches wide). Fedra said: 'It is not exactly a book, it is not printed, Fedra wouldn't call it a book, it had writing in it'. It was long before I could connect this description with anything at all. But at last I remembered a red leather note book of my husband's, which I think he called a log book and I asked: 'Is it a log book?'. Fedra seemed puzzled at first and not to know what a log book was and repeated the word once or twice, and said: 'Yes, yes, he says it might be a log book'. I then said: 'Is it a red book?'. On this point there was hesitation. They thought possibly it was, they thought it was darker. The answer was undecided, and Fedra began her wearisome description all over again, adding that I was to look on page 12, for something written there, that it would be so interesting after this conversation. Then she said: 'He is not sure whether it is page 12, it might be 13, it is so long but he does want you to try and find it. It would interest him to know if this extract is there.' Mrs. Talbot was not very enthusiastic about the book. She remembered having looked through it at one time, wondering whether it was worth keeping. There were things in it about ships and her husband's work, but she also remembered a few notes and verses. She was not sure whether she had thrown it away or not, or whether it was packed amongst some luggage, and she replied rather indefinitely that she would see if she could find it. This would not do for Fedra, who started in about it again saying: 'There are two books, you will know the one he means by the diagram of languages in the front - Indo-European, Aryan, Semitic languages and others'.

Mrs. Talbot rather reluctantly searched for the book and right at the back of the top shelf of her bookcase found two old note-books of her husband's, one in shabby black leather of the size that had been indicated. Inside she was astonished to read 'Table of Semitic or Syro-Arabian languages', and on the other side 'General Table of the Aryan and Indo-European languages'. On page 13 was written an extract from a book called 'Post Mortems' by an anonymous writer and published by Blackwood & Sons in 1881. The extract read as follows:-

'I discovered by certain whispers, which it was supposed I was unable to hear, and from certain glances of curiosity or commiseration, which it was supposed I was unable to see, that I was near death'. Presently my mind began to dwell, not only on happiness, which was to come, but on happiness that I was actually enjoying. I saw long forgot-

ten forms, playmates, school fellows, companions of my youth and old age, for one and all smiled upon me. They did not smile with any compassion, that I no longer felt that I needed, but with that sort of kindness which is exchanged by people who are equally happy. I saw my mother, father, sisters, all of whom I had survived. They did not speak, yet they communicated to me their unaltered and unalterable affection. At about the time when they appeared I made an effort to realise my bodily situation... that is, I endeavoured to connect myself with the body which lay on the bed in my house.... the endeavour failed, I was dead'. This then was the 'something written' which would be 'so very interesting after this conversation'. Mrs. Talbot would have been very unlikely to have found it but for the description of the note book given by Fedá.

Another interesting case, one of precognition, was reported by Dr S.G. Soal, who was himself the sitter. At a sitting with the medium Mrs. Blanche Cooper in January 1922, a communicator gave the name of Gordon Davis and claimed to have known S.G.S. the sitter as a boy at school. S.G.S. had indeed known a boy of that name who lived at Rochford near Southend. He had been at school in the same class for geography and he sometimes brought poisoned spears and other savage weapons in order to illustrate the lessons. S.G.S. lost sight of Davis after he left school and did not meet him again till the summer of 1916. One day when S.G.S. was returning from leave Davis recognised him there on a platform of Shenfield railway station. They were both cadets at the time, and travelled together to Liverpool Street, and Davis told S.G.S. that next day he had to give a lecture to fellow cadets on the ceremony of mounting guard. He did not mention that he was married. Shortly afterwards both went to France, and one day in 1920 S.G.S. heard that Davis had been killed. The 'spirit' of Davis who spoke through Mrs. Cooper mentioned a wife and child and also volunteered correctly several names of persons connected with Rochford and known to S.G.S. He recalled bringing 'harpoons and things' to school and said he 'was for brighter geography'. S.G.S. asked him where they had last met and Davis answered at once: 'It was on the train. We talked about guards, but not train guards!' At a second sitting 'Davis' did not speak in person but 'Nada', Mrs. Coopers 'control', gave a detailed description of Davis' house which S.G.S. noted down. Three years later in April 1925, S.G.S. found that Davis was still alive and practising in Southend as an estate agent. The description of the house given through Mrs. Cooper, tallied exactly with the house in which Davis was actually living in 1925. But at the time of the sittings he and his family were living in London in a flat and their furniture was in storage. They did not have the Southend house till several months after the date of the sittings, though between the first and second sittings Davis had seen the house for the first time with a view to taking it over. All the following statements made by the medium about the 'future' house were correct:-

- (1) A dark tunnel ran through the house (into the back garden).

- (2) There was a 'verandah' opposite it (actually a seaside shelter).
- (3) It was in a street of which the name began with two E's (Eastern Esplanade).
- (4) The pictures on the walls were of mountains and the sea and one picture showed a road between two hills.
- (5) There was a black bird on the piano (an ornamental kingfisher).
- (6) Two funny 'saucers' on the walls, and some curious vases.
- (7) There were two brass candlesticks downstairs.
- (8) There was a woman and child in the house (Mrs. Davis and small son).

Moreover not a single statement by the medium was false. It was possible to find empirical probabilities for the various statements and combine them by multiplication. It was found that the odds against the description as a whole fitting a house chosen at random in a town worked out at several million to one. It is very probable that precognition played a part in this case. Though at the time of the sittings Davis possessed most of the articles of furniture he could hardly have known in January 1922 that the bird would stand on the piano or the candlesticks be relegated to the basement of the future house.

The case above was written by Dr S.G. Soal, the well known British mathematician and psychical researcher, who made the acquaintance in Sept. 1921, of Mrs. Blanche Cooper, a so-called 'voice medium' and through her was really convinced of the existence of paranormal phenomena. Mrs. Cooper's mediumship was a form of automatic speaking.

However the principal objection which can be raised to evidence produced by spontaneous cases, or by experimental telepathy or by mediumistic utterances is the objection of chance coincidence. It has rightly been argued that positive observations, however striking they appear, fail to carry conviction so long as there is no way to determine the probability or improbability of an actual hit by the statistical method. The early workers were well aware of this difficulty, but relying as they were on results, derived from freely chosen material, they were unable to develop a method of mathematical evaluation. An important step in this direction was made by Miss Ina Jeffson and Professor R.A. Fisher, who worked out a method of card calling tests, which regularly lend themselves to statistical assessment.

The credit of having raised this to the standard of an unassailable scientific method undoubtedly goes to Dr J.B. Rhine of Duke University, Durham, North Carolina, U.S.A.. There is a consensus of opinion that his work marks a new era of parapsychology. Rhine used for his experiments a pack of 25 cards, containing five sets of five different symbols, a star, a cross, a circle, a square and wavy lines. Particular precautions were taken by the makers of these so called Zener cards to rule out distinguishing marks on the backs, which might give the game away. In addition, in certain tests mechanical shuffling devices were used to prevent errors due to faulty shuffling of the cards. The odds for rightly guessing such a card symbol are one in five. More than five correct guesses in a series of 25 cards are in excess of a mere chance expect-

ation. Guided by this principle, Rhine was able to assess the deviation of scores from chance and to express results obtained in such well defined terms as the standard deviation, the critical ratio, etc. The method of evaluation has since developed into a science of its own, and those wishing to obtain further information can refer to the paper written by Dr J.H. van der Merwe of the Applied Mathematics Department of the University of Witwatersrand, which appears in this same volume.

The point is that the statistical approach has as a matter of fact, furnished reliable standards for determining the extra chance nature of paranormal cognition.

The devised experiments took special precautions to exclude and to safeguard against sensory clues, deception or self deception, or errors of recording. Among measures taken, one may mention that new packs of cards were used for each series of experiments: the packs were supplied in sealed envelopes, opaque screens separated agent from percipient when seated in the same room, the scores were recorded by two independent witnesses, the operator being constantly present during the whole testing period.

Professor A.E.H. Bleksley from the Witwatersrand University, who is the head of the sub-committee conducting experiments in extra-sensory perception at our University, has described on numerous occasions in detail the experimental methods adopted to obtain water-tight experimental conditions.

The assessment is done by independent counting of hits, direct from the cards, and complete record-scores are independently retained by each experimenter. Under these elaborate conditions 60,000 trials were made and gave a positive deviation of 489 and a critical ratio of 4.99. That is to say that the total number of guesses in excess of chance expectation was 489 or a figure, enormously greater than is expected from chance alone. The odds against such happenings can be expressed in astronomical figures.

Rhine felt justified in regarding the results as incontrovertible evidence of what he termed 'extra-sensory perception'.

The statistical method, however, has more than merely established the fact of para-normal cognition. By varying the experimental arrangements, Rhine could show that many of his subjects could guess the target card, even though it was not being looked at by an agent. He described this as extra-sensory perception under clairvoyant conditions. In his newly devised experiments the percipient had to guess not at a real card picked out of the pack, but at the mental picture of a card symbol which the agent was thinking of. Written records of the agent's choice of a card symbol were made only after the percipient had registered his guess. The experimenter was thus able to distinguish between the paranormal cognition of clairvoyant and telepathic subjects: This was by contrast to the early workers in psychical research, whose experiments were largely amenable to two alternative interpretations.

On the subject of clairvoyance a very interesting series of experiments has been conducted by Whately Carington in Cambridge. He has conducted

a series of drawing tests, devised along the lines of the older drawing tests, but with a greatly improved technique.

The procedure was as follows. He puts up a drawing in his room made by himself or his wife just before the experiment. The drawing was left there over night, the possibility being strictly ruled out that it could be seen by any other person. The subject of the drawing was chosen by a random method from a dictionary, the relevant page of which was suggested by selecting a number from a logarithmic table, again in a random way. About 250 percipients in various localities, in and outside England were instructed to make attempts at reproducing the picture, wherever they happened to be on the same night. This procedure was repeated for ten successive nights with ten different drawings, selected in a similar way and displayed under conditions of strictest privacy. In January 1944 Carington published in America a catalogue of thousands of drawings made by his subjects in order to find out in a statistically assessable manner what sort of drawings they would produce outside the experimental situation. By means of his catalogue he was able to determine the probability of each produced by a percipient being due to chance alone.

The drawings, made by his percipients in a telepathic condition were sent to an umpire, who marked the degree of similarity, or otherwise with the originals. The matching of the drawings by the umpire at the end of the ten days confronted Carington with a surprise. A high degree of similarity between a certain proportion of originals and their presumed reproductions was found, far exceeding anything like chance expectation, yet a qualification had to be made.

The method of matching was based on the telepathy hypothesis, that is to say on the assumption that if the percipient, as a result of paranormal cognitive processes obtains a correct impression of an original which he cannot see, he will do so on the same occasion on which the said original is displayed. The matching of the drawings revealed, however, that this assumption was not true. In fact there was a large number of reproductions which seemed to match originals drawn and displayed on another night, that is to say before or after respective percipients attempted their reproductions and of course after or before the agents had confirmed the sending of relevant images, or even at a time when a selection by the random method had not yet taken place. In other words the correct guess did not necessarily coincide in 'time' with a display of the drawings supposed to be reproduced in a telepathic way. For example, Mr Carington on Tuesday evening drew a buffalo, as suggested by a random consultation of the dictionary, yet Mr X., the percipient in North Carolina, had already reproduced such a picture on Monday, that is the day before. It will be noted that on Monday Mr Carington could be no means foresee what would be the picture he was going to draw on Tuesday. In this way ordinary telepathy could not account for the results achieved. The correct guesses had to be ascribed to some unexpected faculty of precognition, or to a faculty of post-cognition, if the reproduction was found to match the original displayed the previous night. These findings must be accepted, bewildering as they may seem, as they

were vouched for by scientists of such standing as Dr D.D. Broad, Dr R.H. Thouless and Professor H.H. Price, who were partly responsible for the assessment of the results.

The experiments with card calling tests conducted by Dr Soal in England confirmed the observations by Carington of the evidence of precognitive and post-cognitive guesses. One of his subjects was Mr. Basil Shackleton, who showed a pre-cognitive span amounting to between 2 and $3\frac{1}{2}$ seconds and accumulated over $2\frac{1}{2}$ years of intensive experiments. The odds against chance in this series was of the order of 10 to the power of 35 or one in a billion, billion, billion.

In accordance with the evidence amassed in England, and America, it undoubtedly confirms the claim of Dr Rhine and his associates that extra-sensory perception must be regarded as an established fact.

Another point on which light is thrown by the method of these experiments was the factor of intervening distances, and the influence of obstacles placed between agent and percipient. Experiments were carried out with agent and percipient seated in the same room, separated by curtains, or by screens made of a variety of materials. They were repeated by the same subjects seated in separate rooms or buildings. The results were identical. Likewise experiments conducted by Sinclair and Warcollier suggest that success does not depend upon distance. The majority of well authenticated spontaneous occurrences also suggest that distance and intervening materials, whatever the nature, are highly irrelevant to the functioning of telepathy.

There seems to be a close relationship between the two principal forms of extra-sensory perception, that is telepathy and clairvoyance. With few exceptions the identical subjects are found to be successful with both pure telepathy and clairvoyance.

Investigation of the psychological and physiological conditions is possible for the operation of the alleged E.S.P. faculty. Like any other sensory function it is apt to decline by fatigue, boredom, by accidental indisposition, or lack of spontaneous interest on the part of the subject. Rhine also investigated the reaction of the individual subjects to various drugs and concluded that sedatives markedly reduced the number of hits, while stimulants, like caffeine and benzedrine cancel out this effect and generally work in the opposite direction.

Rhine and other workers conclude that both psychologically and physiologically speaking the E.S.P. faculty is closely related to ordinary sensitive functions, that is to say it is a faculty subject to definite volitional control amenable to cultivation, which can be improved through deliberate concentration and spoiled by external disturbing factors.

A few years ago Mr. Spencer Brown wrote a thesis in which he has advanced several criticisms relating to the application of the probability theory to psychical research data. He has claimed that the random tables used in statistics are not really random. His criticisms in the opinion of many statisticians are unfounded, for if we refer to all the most famous researches concerning straightforward extrasensory perception tests, it is at once apparent that random number tables have been used on only a few occasions. I do not propose to deal at length with Mr.

Brown's criticisms as Dr van der Merwe's paper, which I have previously mentioned, deals with the whole subject clearly and thoroughly and is now available to members and public. I should however like to quote J. Fraser Nicol an American scientist on this subject; 'Because of the experimental rigour and the variety of effects produced, it seems most improbable that the Shackleton results obtained by Dr Soal will be seriously harmed by any strange pseudo-psychic effects produced from reputedly random digits. But even if Mr Spencer Brown's conjectures became demonstrated truths, there would still remain ample evidence the qualitative field to sustain a case - I believe a conclusive case - for the reality of paranormal cognition'.

This then, Mr Chairman, ladies and gentlemen, are some of the problems we have, in collecting and assessing evidence in parapsychology. It is not my object to convert anybody. Those who care let them look into the evidence accumulated over the past 80 years and decide without prejudice whether they feel this to be adequate, inadequate, or erroneous, but whatever their decisions, the progress and search for truth will continue.

(Presidential Address delivered at the 2nd Annual General Meeting of the Society on the 2nd December 1957):

III. BETWEEN RATIONALISM AND SUPERSTITION

by

Professor Marius Valkhoff.

Following the great tradition of the venerable British Society for Psychical Research our South-African Society has decided to mark the occasion of its first General Meeting with a Presidential Address. On me rests the responsibility to-night, at this 15th meeting of our association, to present a subject both appropriate for the circumstances and worthy of the University in which we find ourselves. I feel this responsibility the more clearly as I am well-aware that the so-called psychic, paranormal or psi-phenomena, such as telepathy, clairvoyance, psychoscopy or psychic healing, have not yet been investigated here in the same scientific manner as elsewhere. In South Africa there still exists a deplorable lacuna between the scientist who denies everything that does not fit into his system and the layman who believes whatever he desires to. If, to take a case that happened in Natal, not long ago, a psychoscopist elucidates a case of sex-murder by tracing the body of the victim, one fraction of our population will consider this as mere accident, while another fraction will look upon it as all in the day's work. The psychical researcher or parapsychologist, however, is able to classify this case with others of the same kind in a special pattern or category. And though he may not be equal to explaining it, he will at least not confuse it with for instance spiritualism. It is therefore obvious that a large field still lies fallow in this country for the investigation of paranormal phenomena and that it is high time a number of men and women of good will should join forces in order to explore it. For the person who undertakes this exploration it will turn out to be a most eventful and captivating task. It only demands that combination of open-mindedness and criticism which has become so typical of the British and Dutch psychical researchers. Moreover the certain results which our investigation will obtain by applying scientific methods to this order of occurrences will procure him much more satisfaction than all the unproved balderdash that flourishes in so many circles of this town. The fact that to-night we meet in a brightly lighted class-room of this University and not in the darkness of a private seance-room may symbolise the character of our work. For that matter it is comforting to notice that this need of a more scientific approach to psi-phenomena is becoming stronger and stronger among the so-called 'psychometrists' and spiritualists. They are easier to win over to our point of view than the rationalist scientist, because they have personally experienced the phenomena in question. But even the scientist, once he is confronted with paranormal - and therefore apparently 'inexplicable' - facts may feel the desire to try to explain them - if not to 'explain them away'! - It is this human aspect of our work that I should like to deal with to-night and which I would sum up in the title of this paper *Between Rationalism and Superstition.*

The well-known French novelist Georges Duhamel treated the problem of the rationalist who is confronted with the supernatural in his book *La Nuit d'Orage* (*The Night of the Thunderstorm*, 1927). The main characters of this novel are a young histologist François Cros and his wife Elisabeth, also a scientist; they are a newly married couple. Both have been educated in rationalist families, are atheists and materialists. Nature has no secrets for them which in their opinion they themselves or future generations of scholars cannot solve. François' father had eradicated every superstition in him, and if one of his sons committed a weakness of this kind, for instance by avoiding passing under a ladder, he used to say: 'That is the Papuan coming out in you!' That was his way of expressing the idea that everything irrational belongs to a primitive mind as it is found in Papua, but is unworthy of a Frenchman in the 20th century. Well, François and Elisabeth make a trip to Tunisia and in an abandoned archaeological site they discover quite a lot of interesting objects, such as potsherds, coins, iridescent stones. When they are back in Paris François' uncle Abel picks out of the collection they show him a queer little thing: a tooth mounted between two bronze claws. He tells them that this is a kind of reversed *gri-gri*, an evil amulet and in any case a bringer of ill-luck. As uncle Abel is a combative rationalist, like his brother, and tries to defy all sorts of superstitions he asks permission to keep it for his own collection. But François finds it a valuable curiosity and refuses to part with it. Some days later, when he and his wife are staying on their country-seat Labbeville, Elisabeth falls ill. It is an uncanny illness, beginning with tooth-ache and migraine and then more and more undermining her. Both husband and wife almost at once have the impression that the real cause of the indisposition is the evil amulet; they are too proud, however, to reveal this thought to each other. They consult great doctors of the Paris Faculty of Medicine, friends of François' father during his life, but none of these can diagnose Elisabeth's disease. The author initiates us to the mental struggles of François, who at first refuses to admit the irrational idea of the influence of an amulet, an idea which he regards as degrading, but soon he cannot help putting up with it. Now the logical consequence for him would have been to destroy the malefactor, but that seems to him such a shameful relapse into 'Papuanism' that he prefers to see his wife languishing away. She, on her part, is equally incapable of summing up the courage to do away with the amulet, and one night they are ashamed when they meet in front of the chest of drawers where the object is put away. Later on, when the illness worsens, they consult another old and famous doctor, this time a psychiatrist; he too, after a few moments of lucidity, remains blind to the real cause of the complaint. The only thing he can advise is to send Elisabeth to a spa some two hundred miles from their country-house. Now an interesting process of desintegration takes place with François' rationalism. Once his faith in the traditional science of his father and his masters is shaken all kinds of old superstitions come back. He catches himself giving alms to propitiate his bad fate or holding a line of reasoning which cannot but be called superstitious;

he even goes so far as to ponder over the idea of God, in whom he does not believe. In the meanwhile Elisabeth is declining slowly but surely, in spite of her isolation, and one night, after another dejected letter from her, François decides to fetch her and to take her back to Labbeville. There he finally makes up his mind, goes to the chest of drawers in order to remove or destroy the nefarious *gri-gri* and discovers that it has disappeared. A few days later his wife, who had become but the shadow of her former self, begins to regain her health.

Then follows the dénouement: François' uncle writes to him that he was mistaken about the amulet and that the archaeology book he had consulted considers it as an ordinary luck-bringer. François does not tell Elisabeth, throws the letter into the fire and leaves things as they are. Only three years later when he is rummaging in the loft, he discovers the chest, which had been put away there, mechanically opens the lowest drawer and there sees the amulet. In this way everything becomes clear to him: - it was not the magic power of the *gri-gri* that had caused Elisabeth's disease, but only their own obsession about this fiction. When through some violent push back of the upper drawer the object had fallen into the under one and had thus temporarily disappeared both husband and wife thought that the other party had yielded to the atavistic Papuan. That is why their *idée fixe* had been annihilated and things had been straightened out again.

Thus, in the end, Reason is restored sound and triumphant; nevertheless it had been a narrow escape! I have no time to deal with the secondary characters of the novel, but they are there to bring out more clearly the problem of the two central personages. François' brother Michel, for instance, deliberately does away with Western rationalism and decides to live in Java in an Eastern atmosphere. To Georges Duhamel, himself a doctor, this physical disease of the body caused by a simple obsession of the mind must have been most remarkable, though not at all unknown in medical science. Moreover, for a long time it was touch and go whether Elisabeth's illness would not turn out to be due to the action of the amulet and Michel also has a *gri-gri* - but a lucky one! - in which he seems to believe. These initial doubts do not prevent the conclusion from being normal and logical and this triumph of rationalism - a discreet and understanding rationalism - must have been the moral which Duhamel wishes to put across.

Unfortunately this moral that everything is reasonable and can be explained within the limits of our Newtonian world-view, does not apply always and everywhere. To remain in the field of black magic to which Duhamel introduced us: there are ostensibly neutral objects, a little idol or an innovent looking brooch, the introduction of which into a family may coincide with the beginning of a train of unhappy or fatal events. Please note that I do not say that they necessarily started these events, but to those who have travelled or lived in the East, especially in India or Indonesia, such strange coincidences are common knowledge. As long as we have a normal explanation at hand - even an unlikely one - our mind is at rest. We have to do with a queer or uncanny phenomenon,

but there is a possibility of explaining it with the methods afforded by our scientific training. However, our task becomes difficult and complicated when we come across something totally inexplicable and unbelievable. I am thinking of the so-called 'spontaneous cases' in parapsychology. They were the first to attract the attention of the great founders of the British S.P.R. at the end of last century, a Henry Sidgwick, a Frederick Meyers or an Edmund Gurney. Let us take for instance a clear-cut case of an apparition, among those of which Mr G.N.M. Tyrrell carefully chose and studied some sixty in his excellent book *Apparitions* (London, 2nd edition, 1953). Here follows one of those he published and which makes an impression of genuineness:

CASE 4. (Crisis Case). The percipient's half-brother (she refers to him as her brother), an airman, had been shot down in France on the 19th March, 1917, early in the morning. She herself was in India. 'My brother', she says, 'appeared to me on the 19th March, 1917. At the time I was either sewing or talking to my baby - I cannot remember quite what I was doing at that moment. The baby was on the bed. I had a very strong feeling that I must turn round; on doing so I saw my brother, Eldred W. Bowyer-Bower. Thinking he was alive and had been sent out to India, I was simply delighted to see him, and turned round quickly to put baby in a safe place on the bed, so that I could go on talking to my brother; then turned again and put my hand out to him, when I found he was not there. I thought he was only joking, so I called him and looked everywhere I could think of looking. It was only when I could not find him I became very frightened and (felt) the awful fear that he might be dead. I felt very sick and giddy. I think it was 2 o'clock the baby was christened and in the church I felt he was there, but I could not see him. Two weeks later I saw in the paper he was missing. Yet I could not bring myself to believe he has passed away'.

I have chosen an apparition and not a case of dowsing or psychic healing, because an apparition seems much stranger and much more incredible to the average listener or reader. For all that the British Society collected an important number of well-authenticated cases of apparitions, both of the living and the dead, among which Mr Tyrrell chose his. They are very different from hallucinations and have their own deportment. One can distinguish several species among them and one of these consists of the phantoms in haunted houses.¹⁾

Now here we have something we simply cannot account for with the means our intelligence has at its disposal. If François Cros had met with an apparition in his country-house at Labbeville he would have been terribly worried. He might have again consulted the old psychiatrist in Paris about his mental condition. But if his wife and the servants had also noticed the spectre - which sometimes happens - he would have accepted the evidence. This discovery would not have procured him any joy, especially not after the affair of the amulet. On the contrary, most probably he would have moved house, and being an honest scientist he would have confessed with Hamlet that there are more things under

Heaven, than were told of in his philosophy. I do not think it probable that he would have mentioned the incident to his rationalist and atheist uncle or to his catholic and bigoted cousin. But had he done so, the former would have simply denied his nephew's adventure, while the latter would have said that this kind of thing must be taken as a matter of course. So here we are back again between rationalism and superstition and we shall have to make a real effort to find a platform: extremism has always been by far an easier attitude than the search for *le juste milieu*.

The investigation of the 'spontaneous cases' belongs to what we call the *qualitative method* in parapsychology. Each case forms a little drama in itself and is examined on its merits or qualities; hence the name. We cannot produce it again and we can do no more than advance juridical evidence: for instance the reliability of the person to whom the incident happened, declarations by witnesses and the credibility of the whole situation. To a scientist this is no proof and he will more often than not reject the paranormal phenomena which are brought to his notice in this way. Still the 'spontaneous cases' are most attractive and we shall continue to investigate them, although they do not convince everybody.

Now this stand of disdaining the evidence cannot be taken any longer in regard to the *quantitative method*, which is the alternative to the qualitative one. Here it is not the quality of the case that decides but the quantity or degree of significance. In the Parapsychological Laboratories of the Universities of Duke and Utrecht and - on a small scale - in our own Applied Mathematics Laboratory, *psi*-phenomena are produced at will in laboratory conditions. They are therefore repeatable; they are also calculable and we can exactly estimate their significance with the aid of the theory of probabilities. So at Wits too we have made a discreet start with experiments of this kind, but it depends on your cooperation whether we can develop it or not.

To the superstitious or credulous Johannesburger and to the believer, the quantitative method seems futile and boring. He - or she - is sure, even without having witnessed it, that anything can happen from an ordinary precognitive dream to a spiritualistic materialisation speaking through a trumpet or a spirit operation done upon the aura of a patient. He needs no proof and provided he is satisfied with the trustworthiness of the medium, he will accept the phenomena at their face value. Thus, without knowing it, he has lost the battle which Duhamel's hero fought against the superstitions invading his mind during the crisis with the amulet! After this defeat the queerest things may become possible and the oddest dreams of occultists of the past centuries can come true for this believer. One has only to skim through the popular reviews about these subjects to realise the extreme credulity they betray. Between the superstition or sorcery of the Middle Ages and these beliefs of our times there exists only a difference of degree. The reason for this regrettable state of affairs is that no philosophical or scientific

norm is applied by the trustful spiritualist. In the case with which we are dealing here the psychic or paranormal phenomena have become a matter of faith instead of scientific investigation. As a rule this wholesale acceptance of anything supernatural - or its pure denial - is also the attitude of the man on the street towards the paranormal. It has been the great merit of the societies for psychical research and other parapsychological associations to open the eyes of a great number of people interested in psychic or spiritualistic phenomena, to provide them with norms and give them in this way the platform they lacked.

At the beginning of this lecture I discussed a presumptive case of black magic; I would like to devote the latter part of it to its opposite 'white magic', that is to say 'psychic' or paranormal healing. As long as no specialist takes any interest in this kind of research I deem it my duty to draw attention to what in my opinion is an extremely important and entirely misjudged aspect of present day life. I am neither a medical man nor a psychologist and therefore have a certain hesitation in dealing with this subject. But I may say that since the late 1920's, when a student-almanach brought out a parapsychological detective story which I wrote for it, I have read regularly about psychical research and have witnessed quite a lot of curious and unusual occurrences.

There has been no lack of efforts to discredit paranormal healing. As lately as the *British Medical Journal* of 4 December 1954 Dr L. Rose published a scathing but apparently not incorrect report under the innocent title of 'Some aspects of Paranormal Healing'. The *Journal* of the British Society for Psychical Research reproduced this article in its entirety, a fact which may prove the impartiality of our English sister-organisation. I must confess that at first this report raised a great problem in my mind: I had experienced and examined a few cases of paranormal healing which seemed undoubtedly due to something else - and more - than auto- or hetero-suggestion and something real which could not be easily dismissed. Hence I now had to ask myself how to account for this negative report. It is not enough to say that psi-phenomena are always elusive, for even elusiveness need not prevent us from finally catching the essence itself. Now Dr Rose investigated 85 cases of alleged psychic healings. In 58 cases it was not possible to obtain medical or other records, so that the claims remained unconfirmed. Moreover in 22 cases, records were so much at variance with the claims that it was considered useless to continue the investigation any further. Among the remaining 15 cases, which I take together here, there was a probability of cure or relief in 7, while in 4 cases there was improvement when healing was received concurrently with orthodox medical treatment.

Now first of all I wonder what would happen if we organised such an enquiry into normal healing. Suppose that we ask the physicians of one storey of Lister Buildings or Harley Chambers for their best results

during the year 1955. We then send a questionnaire to the patients in question and check up and class the answers. I would not be surprised if we obtained more or less the same unsatisfactory results as in Dr Rose's case: a majority of patients leaving our questionnaire unanswered; a certain number who do not consider themselves as entirely cured although perhaps they are; another group who had relapses and finally the happy few!

But let us go into details and consider Dr Rose's figures. There is above all the striking fact that 58 cases of 85, that is more than two thirds, had to be left out, so that only 35 cases stand. As for these 35, it would be interesting to go through the 22 dubious cases and see what the matter was with each of them. Dr Rose gives an example of one of this category - where a lady claimed a psychic healing, largely publicised in a pictorial magazine. But her hospital records revealed that she could no longer have been ill at the moment of her paranormal treatment. This is a clear-cut case, but we do not know about the others. Dr Rose, however objective he may try to be, is biased against paranormal healing; it would be useful if a medically trained parapsychologist also studied his material. This was done after a similar investigation in Holland, and the revision proved to be appreciably more favorable than the original report.

Another remark that has to be made is that various kinds of paranormal healers have been mixed up in Dr Rose's enquête. His main source is Mr Harry Edwards, the celebrated spirit healer, though the results of many other unnamed healers have also been dealt with. Well now if I had to criticize Mr Edwards I would point out that he makes far too much publicity about his work and that he takes on a great deal too many patients. More often than not he treats each of them only once or twice - often even collectively - and then hands him - or her - over to the local spiritualist church or recommends him to the patient's own private prayers; Mr Edwards also heals in absentia. From a scientific and parapsychological point of view this cannot be called but an extremely superficial treatment. Even a good paranormal healer may sometimes need weeks or months to accomplish a cure, and it is just one of his great handicaps that not unfrequently his clients, who expect miracles, grow impatient and stay away before the cure is finished. With regard to the other psychic healers investigated by Dr Rose, we do not know anything about them; they may have been faith healers, mesmerizers, magnetizers or even *quacks*, because unfortunately the quack is a not uncommon type of self-styled psychic healer!

In the second place there is something else we should not lose sight of: as a rule the paranormal healer is in an unfavourable position when compared to the physician, because most of his cases are hopeless ones. Let us ask ourselves the question: 'In what circumstances does somebody consult a paranormal healer in South Africa'? To me the answer seems to be in most cases: when he gets no results with his orthodox treatment,

or when he has to face a surgical operation, or when he has been given up by his own doctors. Once we realise this particular position of the healer with his clientele of a majority of hopeless - or at least difficult - cases, we shall have more indulgence for him and also understand his weakness for advertising his feats!

And last but not least: what exactly do we expect from a paranormal healer; cures or miracles? Oddly enough the answer is: 'miracles'! There is no doubt about it: to the man on the street the psychic healer is a sort of miracle- or wonder-monger, and if he does not cure the incurable he is not worth a red cent! And this is not only the attitude of the man on the street. I remember that when we organised a first demonstration with a paranormal healer in our Society one of our doctors wanted to make him work on a cancer patient who had only two months to live. I feel that this is extremely unfair: we have to see paranormal healing as *one* particular art of healing, different from and more or less parallel to orthodox medicine. The same applies to *acupuncture*, the healing art of the Classical Chinese medicos, *Native herbalism* and *homoeopathy*. We have to accept them as existing and different arts of healing; we should not compare them primarily with each other, but first examine them and their representatives on their merits and results.

Besides the trend to explain away or to deny paranormal phenomena, I notice a tendency to get around the apparent incredibility of *psi*-phenomena by declaring them 'normal'. Thus in the March issue of the *Journal* of the British S.P.R. we have an article on 'The use of the word 'paranormal' in medicine' by Mr G. Zorab, a well-known Dutch parapsychologist and secretary-general of the Dutch S.P.R. He has worked out his ideas in a longer article in the May number of the *Tijdschrift voor Parapsychologie*. The point at issue is that in the year 1954 a Foundation was set up in Holland by a number of doctors, jurists, members of parliament, professors and other prominent personalities to study the problem of paranormal healing and its social significance. By 'paranormal healing' they understand all kinds of healings or cures obtained not only by what are commonly called 'psychic healers', that is to say magnetizers, faith, mind - or spirit-healers, but also by herbalists, naturists, hypnotists and such-like, in a word all persons unqualified in medicine. Now Mr Zorab takes exception to this definition and especially to the fact that the recovery of a patient caused by a physician is regarded as normal, while the same result obtained by an alleged psychic healer is called 'paranormal'. He then precludes from the domain of the parapsychologist all the ordinary healings done by psychic healers and also the physiological phenomena that can be provoked under hypnosis, such as the raising of blisters, the cure of warts, and so on. Moreover he observes that 'the whole extensive field of psychosomatics is by general consent classified as 'normal''. In this way, only the really miraculous cures - if any! - are recognised as 'paranormal', such as the restoration of a complete new limb after an amputation or some sudden and permanent materialisations and de-materia-

lisations of organic tissues. As you see, with these criteria probably only Christ himself might be called a 'paranormal healer'! Of course, in a certain way Mr Zorab is right when he wants to limit the field of paranormal healing, but he goes too far. In addition it is true that if some astounding healing, let us say the disappearance without operation of a cancerous tumour, is achieved by a psychic healer the feat is called a 'miracle' and he will get all the credit, while the same achievement accomplished by a general practitioner is looked upon as a piece of good luck! This attitude is easy to understand; the fact is that the layman is often more impressed by the *manner* in which the cure was achieved than by the final result. Now this manner of healing has been entirely lost sight of by Mr Zorab. Whether a sinusitis is healed by inhalations or by magnetizing is not at all the same thing. Those who have observed our magnetizer Mr J.M. van den Bos at work will have noticed two striking facts. First of all magnetizing is not only hetero-suggestion - although suggestion may accompany it. I am more and more convinced that it is a special action somehow exerted by the magnetizer on the patient. There are local reactions to the magnetizer's manipulations or gestures: a spot on the patient's body may become warm or cold, the patient may feel an itching or twitching, his hands or feet may start tingling, he may even develop a pain in a quite unexpected place, he may become sleepy or even fall asleep and many other reactions of a special character are possible. Usually these reactions are very slight but it may happen that they are felt strongly. Some people, however, though they believe in the possibility of paranormal healing, prove to be impervious to this treatment and do not react. One has the impression that a force emanates from the hands of the magnetizer and works on the patient. It looks as if it were a radiation, some type of rays we have not discovered yet! One must have experienced it to understand the autonomous character of this particular kind of healing. It is certainly paranormal in this sense that it cannot be explained by our present medical science. In this respect it is as 'abnormal' and as 'queer' as for instance telepathy.

Add to this that many magnetizers - and psychic healers in general - have other paranormal gifts as well; they are often psychoscopists and can make diagnoses simply by getting impressions about their patients. Sometimes they even give a prognosis which is based on a precognitive talent. Their healing aptitude is therefore part of a complex of various paranormal abilities. Moreover they work better on patients who believe in their work than on those who do not. In just the same way parapsychologists conducting experiments in telepathy distinguish their subjects as 'sheep' - the confident ones - and 'goats' - the unwilling ones - and it has been proved that they get more significant results with the former than with the latter. With all this in mind I do not see how one can deny the paranormal character of the work of the magnetizer and of other types of psychic healers, unless they happen to be frauds²⁾.

I have confined myself to one type of paranormal healing, the one I

myself have studied, but I am sure that other types than 'animal magnetism' may also be linked up with mediums, clairvoyants and other 'psychic' people. But even if we consider the *results* of paranormal healing as Mr Zorab does -and not the manner of healing- I regret that I still cannot agree with him. It is a well-known fact, for instance, that some persons under hypnosis become more sensitive and present better paranormal phenomena. Some of the healings accomplished in that state of mind may therefore certainly be called paranormal, just as the clairvoyant communications of the hypnotised person are. Provoking the appearance and disappearance of stigmatisations on the skin, as some highly religious persons are capable of doing, is also regarded as entirely normal by Mr Zorab; but this question too should be reconsidered by psychical researchers.

One has only to read Professor W.H.C.Tenhaeff's thorough and interesting book on *Magnetiseurs, Somnambules en Gebedsgenezers* to see how intricate and difficult the problem of 'psychic healing' is. His study has certainly proved that this art of healing is not a fake, and that in many cases something occurs. According to him several of the old mesmerizers, the forerunners both of our hypnotists and our magnetizers, already had sound notions of what we now call parapsychology. On the other hand, there has been -and still is- much hotch-potch, fake and charlatanism among the healers, and suggestion -or auto-suggestion- among their patients. Finally paranormal healing can also be combined with other types of healing, such as herbalism, homoeopathy and even orthodox medicine. Personally, as a psychical researcher, I hesitate where to locate it: whether as Psycho-kinesis (PK), that is action of mind on matter -which would look most likely- or as Extra-sensory Perception (ESP), that is to say influencing of mind by mind, and the patient's body reacting on his own influenced mind. I would not be surprised if there were both PK and ESP in it. For 'animal magnetism' I do not even exclude eventually a normal explanation by some new sort of rays which we shall discover later on.

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It is time to conclude, because it is not an easy subject with which we have been dealing. I hope that I have made it clear to you that the parapsychologist or psychical researcher does have a definite platform somewhere 'between rationalism and superstition'. Probably he feels more akin to the rationalist scientist than to the superstitious believer. However, he has gone through -or read about- so many unaccountable experiences that he accepts them and wishes to elucidate them. Of course he would not follow this path if he did not feel attracted by these phenomena on the fringes of normal life. Moreover he is either an 'experimentalist' or a 'metaphysicist', that is to say he is either more interested in fascinating experiments or he prefers to use paranormal discoveries to build up a philosophy of his own and based on data he has verified himself.

Each Society for Psychical Research has to take into account these

two tendencies and therefore has room for the scientist or the layman with a scientific interest as well as for the philosopher or the philosophically or religiously minded person. It strikes me that in this manner psychical research is the only way to build up a metaphysics which is more than word-mongering. This seems also to have been the conclusion to which had come Professor G. Heymans of Groningen University. After having begun his career as a theoretical metaphysicist, he occupied the first chair of psychology in Holland and then became the first chairman of the Dutch Society for Psychical Research. Gabriel Marcel, too, the wellknown French Christian existentialist, collected his psychic experiences in a book which he called most significantly *Journal Metaphysique*. He is now one of the leading parapsychologists in France.

With all this in mind it is not too difficult to fix a policy for a Society for Psychical Research. Naturally this policy has to satisfy both the 'experimentalists' and the 'metaphysicists' among us. It also has to exploit local possibilities and needs. I see no fewer than four objects we may pursue at once:

- 1.-First of all it is always useful to do experiments in ESP and PK with those who like them. I have no doubt that, provided we persevere, we shall get results, and these results can be studied and used for new experiments. In a Memorandum about this subject Professor A.E.H. Bleksley has outlined the great potentialities South Africa presents in this field.
- 2.-However, this laboratory work should not prevent us from investigating the paranormally gifted people we meet with: a successful 'psychic healer', a promising psychoscopist, a cooperative medium and so on. In our own Society we have a certain number of possibilities, but we should also look elsewhere.
- 3.-In the third place we must not neglect the so-called 'spontaneous cases' we hear of. This year, for instance, we received a report about an interesting case of dogs that started howling in the garden at the very moment their master died in a room of the house. Now this kind of incident corresponds to an old popular belief and ought to be compared with other similar cases. I hope that more and more of such cases will be brought to our notice and we shall then regularly report on them at the following monthly meeting of the Society.
- 4.-Finally we have to organise lectures in order to classify paranormal phenomena, to describe them in detail and to explain and discuss them; this is our duty towards the 'metaphysicists' among our members. In this way I think that this fourfold programme will give all our members cause for satisfaction and will also produce scientific results.

(This paper was read in the Music Room of the University of the Witwatersrand on the 14th December 1956)

NOTE

- 1)Of course one cannot compare such an apparition or telepathic commu-

nication with a mere hunch and then demand a statistic of all the hunches the percipient has had in the past showing which came true and which did not. The opponents of parapsychology who follow this line of attack have no idea of the peculiar character of the paranormal experience. The precognitive dream and the telepathic communication have a vividness and impressiveness which at once convince the percipient that something unique is happening to him.

2). See also Prof. W.H.C. Tenhaeff: *Een andere visie met betrekking tot het begrip paranormaal*. Tijdsch. v. Parapsych., 1957, pp. 118-128

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

Telephone 44-3781 · Milner Park, Johannesburg

25th August 1958.

Dear Colleague,

The Committee of the South-African S.P.R. has the pleasure of sending you herewith its 2nd publication. I would very much appreciate it if you could reciprocate by sending us one of your publications. Our Society is still a very young one and will be grateful for any publications received by way of exchange.

Thanking you in anticipation,

Yours sincerely,

A handwritten signature in dark ink, appearing to read 'M. Valkhoff', written in a cursive style.

M. Valkhoff